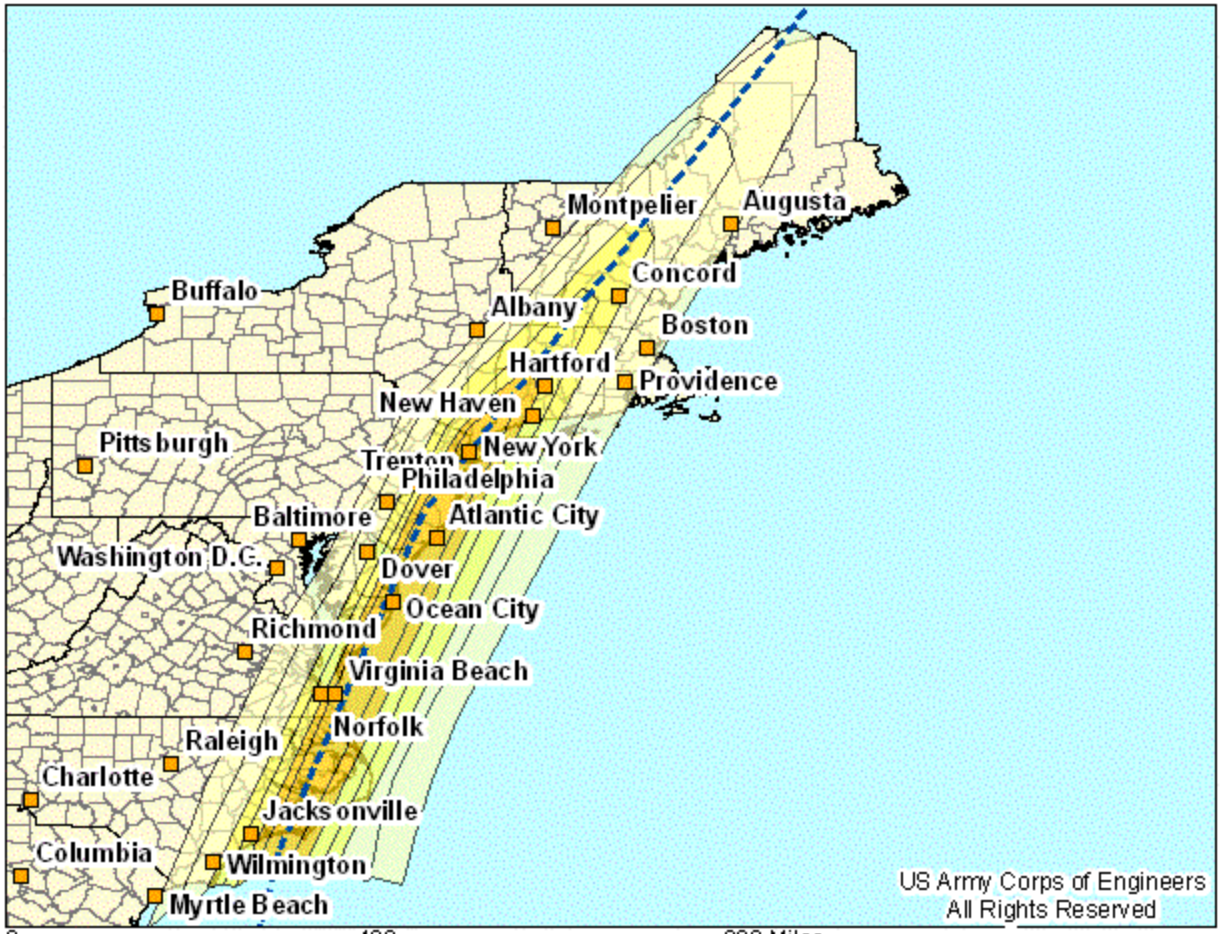
US Army Corps of Engineers

Hurricane Irene Projected Damage Areas

Landfall Expected In About 45 Hours

For Planning Purposes Only!



Post Landfall Projected Damage Areas

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a projected or actual Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast and extrapolated by LRL staff to represent a landfall condition that has either occurred or may occur in the near future.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Projected Damage Areas

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

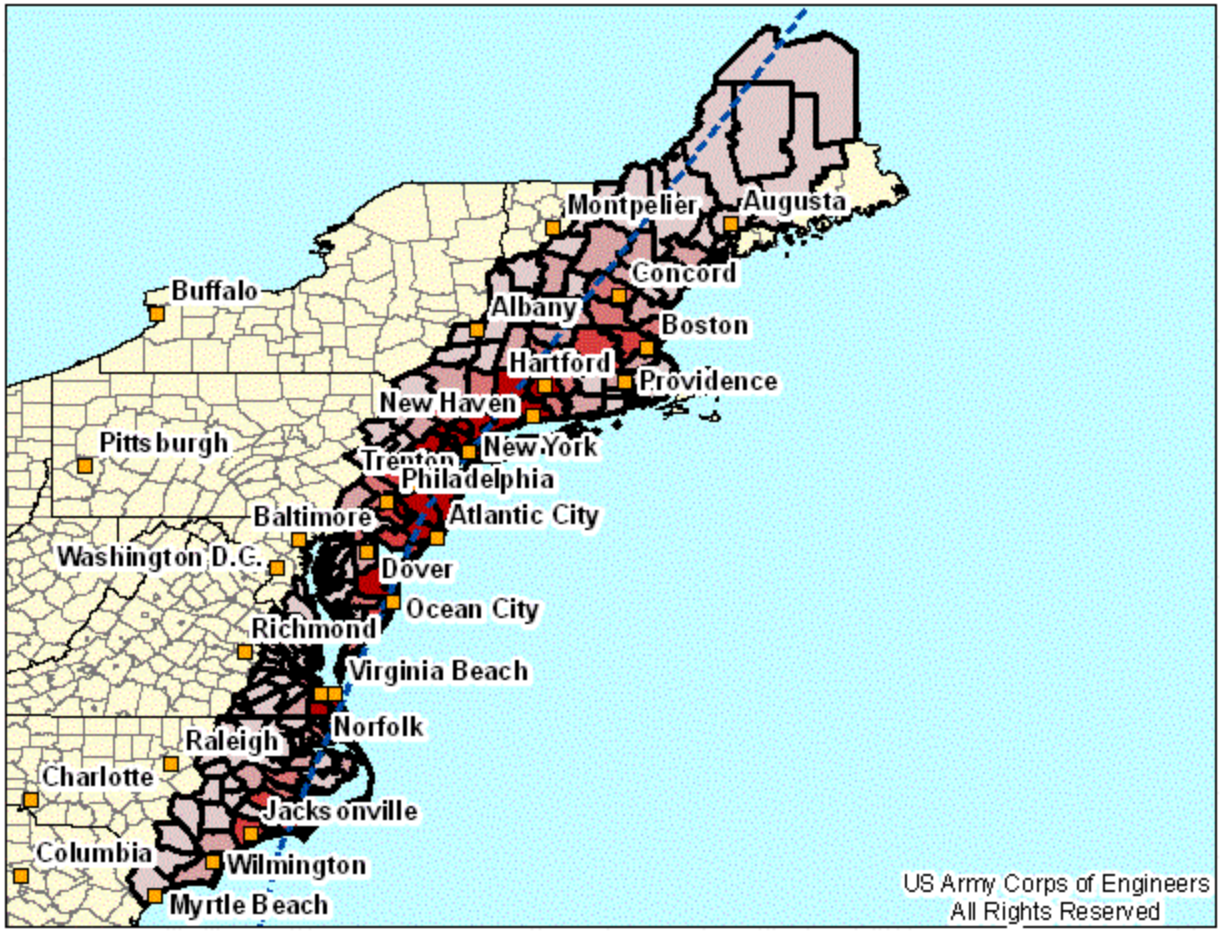
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Debris Model Results

New York - 54,608,000 Yards
New Jersey - 47,090,000 Yards
Connecticut - 11,986,000 Yards
Virginia - 7,941,000 Yards
North Carolina - 5,093,000 Yards
Massachusetts - 4,054,000 Yards
Pennsylvania - 3,017,000 Yards
Delaware - 1,814,000 Yards
New Hampshire - 1,693,000 Yards
Maryland - 1,280,000 Yards
Maine - 434,000 Yards
Vermont - 374,000 Yards
Rhode Island - 370,000 Yards
South Carolina - 26,000 Yards

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Debris Model	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	Page 2 of 32

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Connecticut		Fairfield County	5,116,000
		Hartford County	2,303,000
		Litchfield County	1,020,000
		Middlesex County	391,000
		New Haven County	2,614,000
		New London County	190,000
		Tolland County	252,000
		Windham County	100,000
Connecticut	11,986,000		
Delaware		Kent County	186,000
		New Castle County	296,000
		Sussex County	1,332,000
Delaware	1,814,000		
Maine		Androscoggin County	47,000
		Aroostook County	5,000
		Cumberland County	123,000
		Franklin County	23,000
		Kennebec County	48,000
		Oxford County	52,000
		Penobscot County	3,000
		Piscataquis County	6,000
		Sagadahoc County	8,000
		Somerset County	25,000
		Waldo County	< 1,000
		York County	95,000
Maine	435,000		
Maryland		Calvert County	24,000
		Caroline County	33,000
Maryland (continued)		Cecil County	26,000
		Dorchester County	43,000
		Kent County	8,000
		Queen Anne's County	16,000
		Somerset County	88,000
		St. Mary's County	68,000
		Talbot County	27,000
		Wicomico County	342,000
		Worcester County	605,000
Maryland	1,280,000		
Massachusetts		Berkshire County	230,000
		Bristol County	64,000
		Essex County	260,000
		Franklin County	202,000
		Hampden County	1,053,000
		Hampshire County	340,000
		Middlesex County	602,000
		Norfolk County	231,000
		Plymouth County	21,000
		Suffolk County	221,000
		Worcester County	830,000
Massachusetts	4,054,000		
New Hampshire		Belknap County	121,000
		Carroll County	119,000
		Cheshire County	228,000
		Coos County	67,000
		Grafton County	195,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
New Hampshire		Hillsborough County	385,000
(continued)		Merrimack County	264,000
		Rockingham County	161,000
		Strafford County	61,000
		Sullivan County	92,000
New Hampshire	1,693,000		
New Jersey		Atlantic County	2,504,000
		Bergen County	6,674,000
		Burlington County	1,606,000
		Camden County	1,065,000
		Cape May County	995,000
		Cumberland County	547,000
		Essex County	3,805,000
		Gloucester County	520,000
		Hudson County	3,977,000
		Hunterdon County	134,000
		Mercer County	1,048,000
		Middlesex County	4,703,000
		Monmouth County	6,083,000
		Morris County	1,043,000
		Ocean County	6,421,000
		Passaic County	2,078,000
		Salem County	86,000
		Somerset County	795,000
		Sussex County	147,000
		Union County	2,776,000
		Warren County	83,000
New Jersey	47,090,000		
New York		Albany County	8,000

State	Yards per State	County	Yards per County
New York		Bronx County	4,367,000
(continued)		Columbia County	71,000
		Dutchess County	498,000
		Greene County	23,000
		Kings County	10,597,000
		Nassau County	8,373,000
		New York County	4,961,000
		Orange County	447,000
		Putnam County	425,000
		Queens County	11,157,000
		Rensselaer County	59,000
		Richmond County	3,072,000
		Rockland County	1,074,000
		Suffolk County	4,113,000
		Sullivan County	21,000
		Ulster County	184,000
		Washington County	4,000
		Westchester County	5,154,000
New York	54,608,000		
North Carolina		Beaufort County	269,000
		Bertie County	61,000
		Bladen County	4,000
		Brunswick County	161,000
		Camden County	99,000
		Carteret County	748,000
		Chowan County	76,000
		Columbus County	9,000
		Craven County	622,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
North Carolina		Currituck County	244,000
(continued)		Dare County	227,000
		Duplin County	52,000
		Edgecombe County	31,000
		Gates County	34,000
		Greene County	15,000
		Halifax County	12,000
		Hertford County	36,000
		Hyde County	98,000
		Jones County	46,000
		Lenoir County	63,000
		Martin County	48,000
		Nash County	23,000
		New Hanover County	382,000
		Northampton County	14,000
		Onslow County	521,000
		Pamlico County	155,000
		Pasquotank County	381,000
		Pender County	103,000
		Perquimans County	106,000
		Pitt County	174,000
		Sampson County	9,000
		Tyrrell County	73,000
		Washington County	105,000
		Wayne County	60,000
		Wilson County	32,000
North Carolina	5,093,000		
Pennsylvania		Bucks County	685,000
		Chester County	123,000
		Delaware County	412,000
Pennsylvania		Lehigh County	4,000
(continued)		Monroe County	7,000
		Montgomery County	455,000
		Northampton County	73,000
		Philadelphia County	1,238,000
		Pike County	20,000
Pennsylvania	3,017,000		
Rhode Island		Bristol County	17,000
		Kent County	71,000
		Newport County	3,000
		Providence County	225,000
		Washington County	54,000
Rhode Island	370,000		
South Carolina		Horry County	26,000
South Carolina	26,000		
Vermont		Bennington County	47,000
		Caledonia County	18,000
		Essex County	9,000
		Orange County	24,000
		Rutland County	10,000
		Washington County	< 1,000
		Windham County	162,000
		Windsor County	104,000
Vermont	374,000		
Virginia		Accomack County	369,000

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Irene Debris Model

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US Army Corps of Engineers

Hurricane Irene Debris Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Yards per State	County	Yards per County
Virginia		Charles City County	4,000
(continued)		Chesapeake city	1,148,000
		Essex County	5,000
		Franklin city	11,000
		Gloucester County	57,000
		Greensville County	2,000
		Hampton city	344,000
		Isle of Wight County	57,000
		James City County	85,000
		King William County	4,000
		King and Queen County	5,000
		Lancaster County	18,000
		Mathews County	19,000
		Middlesex County	16,000
		New Kent County	7,000
		Newport News city	457,000
		Norfolk city	944,000
		Northampton County	91,000
		Northumberland County	16,000
		Poquoson city	26,000
		Portsmouth city	419,000
		Prince George County	6,000
		Richmond County	5,000
		Southampton County	20,000
		Suffolk city	177,000
		Surry County	10,000
		Sussex County	8,000
		Virginia Beach city	3,482,000
		Westmoreland County	6,000
		Williamsburg city	14,000
		York County	109,000

State	Yards per State	County	Yards per County
Virginia	7,941,000		
(continued)			

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds, but does not include volume that may be covered by private insurance. Debris volume may include storm surge generated debris.

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Hurricane Irene Debris Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

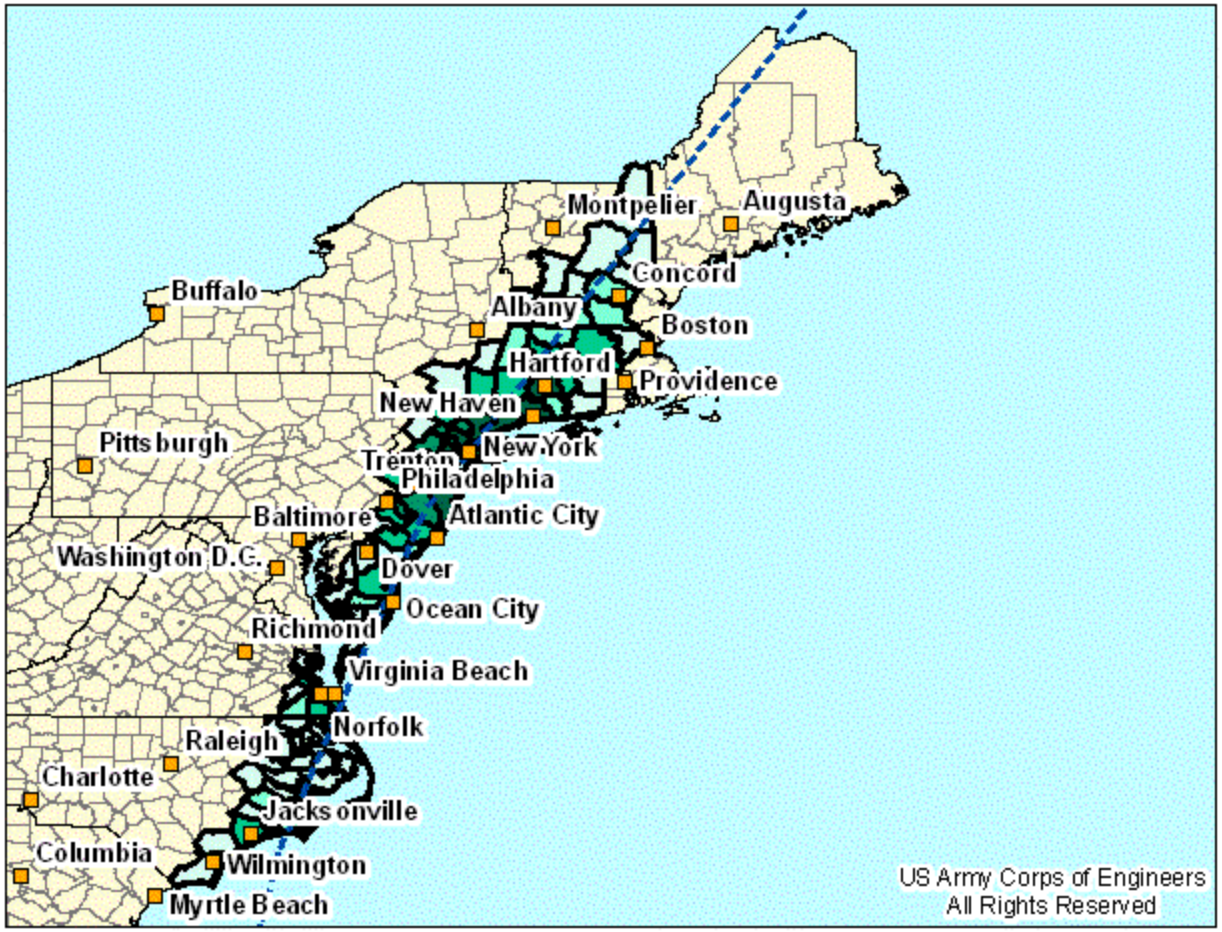
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Water Model Results

Day One / Day Two / Day Three

New York – 230/460/923 Truckloads
New Jersey – 140/285/569 Truckloads
Connecticut – 55/110/223 Truckloads
Virginia – 28/57/114 Truckloads
Massachusetts – 19/38/75 Truckloads
North Carolina – 15/30/60 Truckloads
New Hampshire – 9/18/35 Truckloads
Pennsylvania – 7/13/26 Truckloads
Delaware – 5/9/17 Truckloads
Maryland – 4/8/15 Truckloads
Vermont – 2/3/5 Truckloads

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Commodities

- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC ***(1700 EDT 08/25/2011)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements and SME input. The graphic represents daily needs with a ramp-up in the distribution system – three days for Points of Distribution (PODs) to be fully in place and operational. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Connecticut		Fairfield County	64
		Hartford County	62
		Litchfield County	14
		Middlesex County	10
		New Haven County	60
		New London County	1
		Tolland County	11
		Windham County	1
Connecticut	223		
Delaware		Kent County	3
		Sussex County	14
Delaware	17		
Maryland		Caroline County	1
		Dorchester County	1
		Somerset County	2
		Wicomico County	7
		Worcester County	4
Maryland	15		
Massachusetts		Berkshire County	8
		Franklin County	6
		Hampden County	33
		Hampshire County	11
		Middlesex County	1
		Worcester County	16
Massachusetts	75		
New Hampshire		Belknap County	4
		Carroll County	2
New Hampshire (continued)		Cheshire County	6
		Coos County	1
		Grafton County	3
		Hillsborough County	7
		Merrimack County	9
		Sullivan County	3
New Hampshire	35		
New Jersey		Atlantic County	20
		Bergen County	63
		Burlington County	32
		Camden County	29
		Cape May County	7
		Cumberland County	11
		Essex County	55
		Gloucester County	13
		Hudson County	44
		Hunterdon County	1
		Mercer County	26
		Middlesex County	56
		Monmouth County	46
		Morris County	27
		Ocean County	41
		Passaic County	35
		Salem County	1
		Somerset County	23
		Sussex County	1
		Union County	38
New Jersey	569		

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

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Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
New York		Bronx County	98
		Columbia County	1
		Dutchess County	20
		Kings County	179
		Nassau County	96
		New York County	114
		Orange County	17
		Putnam County	7
		Queens County	165
		Richmond County	35
		Rockland County	22
		Suffolk County	99
		Ulster County	2
		Westchester County	68
New York	923		
North Carolina		Beaufort County	4
		Bertie County	1
		Brunswick County	1
		Camden County	1
		Carteret County	5
		Chowan County	2
		Craven County	7
		Currituck County	2
		Dare County	3
		Gates County	1
		Hertford County	1
		Hyde County	1
		Jones County	1
		Martin County	1
		New Hanover County	8
North Carolina (continued)		Onslow County	12
		Pamlico County	1
		Pasquotank County	3
		Pender County	1
		Perquimans County	1
		Pitt County	1
		Tyrrell County	1
		Washington County	1
North Carolina	60		
Pennsylvania		Bucks County	20
		Philadelphia County	6
Pennsylvania	26		
Vermont		Bennington County	1
		Windham County	3
		Windsor County	1
Vermont	5		
Virginia		Accomack County	3
		Chesapeake city	16
		Gloucester County	1
		Hampton city	11
		Isle of Wight County	1
		Mathews County	1
		Newport News city	11
		Norfolk city	18
		Northampton County	1
		Poquoson city	1

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

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Hurricane Irene Commodities Model

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Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Commodities Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Truckloads per State	County	Truckloads per County
Virginia		Portsmouth city	10
(continued)		Suffolk city	6
		Virginia Beach city	31
		York County	3
Virginia	114		

Source: US Army Corps of Engineers, All Rights Reserved

The amount of commodities forecasted is based on Mission Guide Book requirements and SME input and the above table indicates suggested daily needs based on full deployment of a commodities distribution system. Volume shown is for each commodity – water and ice. Commodity need may be supplied by multiple agencies and/or sources.

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or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Commodities Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

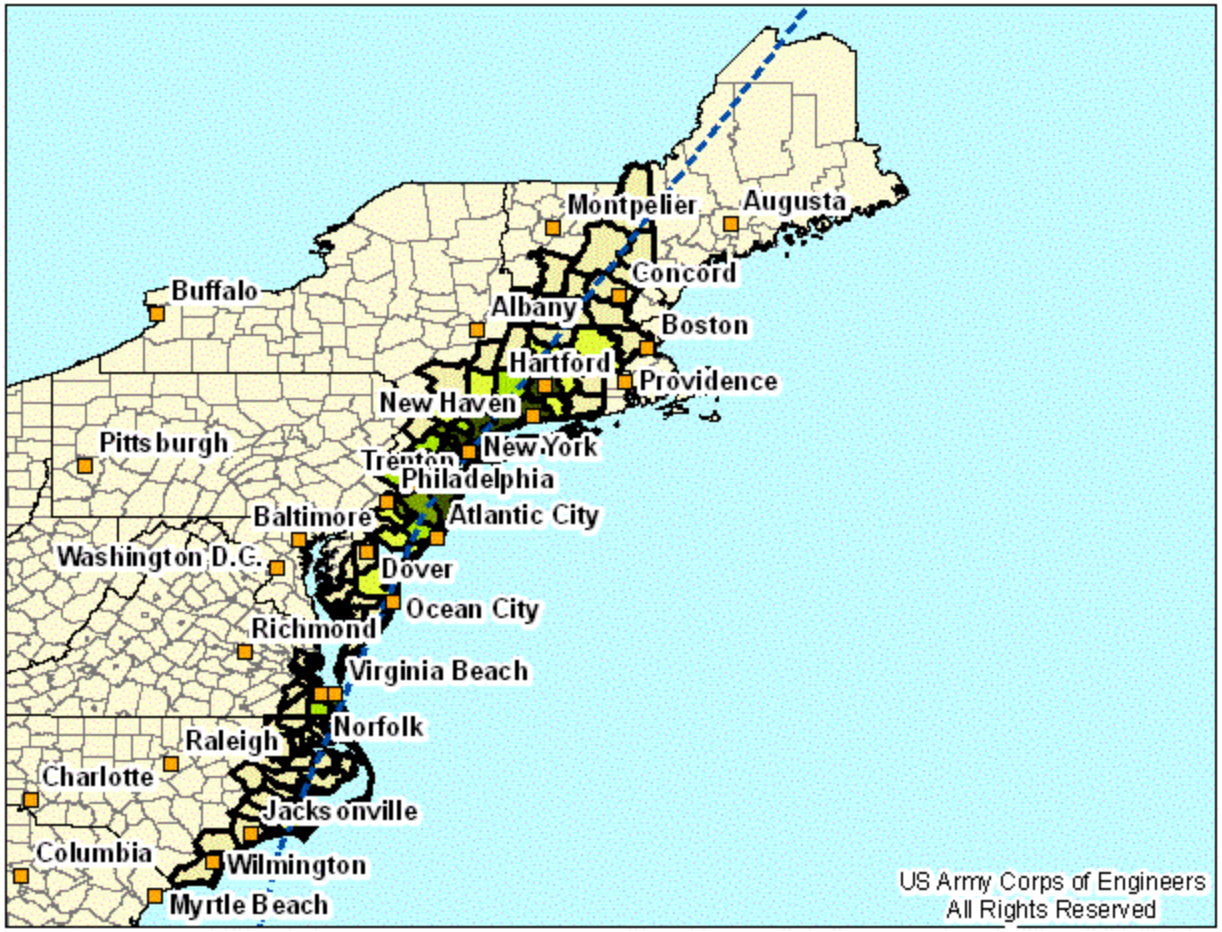
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Temporary Roofing Model Results

New York - 165,300
New Jersey - 144,100
Connecticut - 56,000
Virginia - 28,800
North Carolina - 15,500
Massachusetts - 15,000
New Hampshire - 7,400
Pennsylvania - 5,400
Delaware - 4,200
Maryland - 3,700
Vermont - 1,300

Model results per County on following page

Forecast Track

Temporary Roofing

- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

This model is based on a category 2 storm making landfall near Morehead City, NC.

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast. Temporary roofing is based on 5% in CAT 1 and 8% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Roofing Model	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	Page 11 of 32

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About 45 Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Connecticut		Fairfield County	19,600
		Hartford County	12,900
		Litchfield County	4,900
		Middlesex County	2,200
		New Haven County	14,100
		New London County	200
		Tolland County	2,100
		Windham County	< 100
Connecticut	56,000		
Delaware		Kent County	600
		Sussex County	3,600
Delaware	4,200		
Maryland		Caroline County	< 100
		Dorchester County	< 100
		Somerset County	500
		Wicomico County	1,500
		Worcester County	1,700
Maryland	3,700		
Massachusetts		Berkshire County	1,800
		Franklin County	1,200
		Hampden County	6,700
		Hampshire County	2,200
		Middlesex County	200
		Worcester County	2,900
Massachusetts	15,000		
New Hampshire		Belknap County	1,100
		Carroll County	600

State	House Units per State	County	House Units per County
New Hampshire		Cheshire County	1,200
(continued)		Coos County	< 100
		Grafton County	600
		Hillsborough County	1,300
		Merrimack County	1,700
		Sullivan County	900
New Hampshire	7,400		
New Jersey		Atlantic County	6,000
		Bergen County	19,100
		Burlington County	7,400
		Camden County	6,100
		Cape May County	2,600
		Cumberland County	2,400
		Essex County	11,400
		Gloucester County	2,600
		Hudson County	7,200
		Hunterdon County	< 100
		Mercer County	5,400
		Middlesex County	15,200
		Monmouth County	14,600
		Morris County	5,500
		Ocean County	16,000
		Passaic County	7,900
		Salem County	200
		Somerset County	4,800
		Sussex County	< 100
		Union County	9,700
New Jersey	144,100		

Temporary roofing is based on 5% in CAT 1 and 8% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Irene Roofing Model

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Siemsen, LRL 1800 EDT 08/25/2011

Sources:
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LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
New York		Bronx County	7,400
		Columbia County	200
		Dutchess County	3,900
		Kings County	24,000
		Nassau County	31,800
		New York County	1,200
		Orange County	3,100
		Putnam County	2,200
		Queens County	33,400
		Richmond County	11,400
		Rockland County	5,100
		Suffolk County	24,800
		Ulster County	400
		Westchester County	16,400
New York	165,300		
North Carolina		Beaufort County	800
		Bertie County	300
		Brunswick County	< 100
		Camden County	300
		Carteret County	2,300
		Chowan County	400
		Craven County	1,800
		Currituck County	800
		Dare County	1,100
		Gates County	200
		Hertford County	< 100
		Hyde County	200
		Jones County	200
		Martin County	300
		New Hanover County	1,700

State	House Units per State	County	House Units per County
North Carolina		Onslow County	1,900
(continued)		Pamlico County	400
		Pasquotank County	1,300
		Pender County	300
		Perquimans County	400
		Pitt County	200
		Tyrrell County	200
		Washington County	400
North Carolina	15,500		
Pennsylvania		Bucks County	4,300
		Philadelphia County	1,100
Pennsylvania	5,400		
Vermont		Bennington County	< 100
		Windham County	1,100
		Windsor County	200
Vermont	1,300		
Virginia		Accomack County	1,300
		Chesapeake city	4,700
		Gloucester County	< 100
		Hampton city	2,000
		Isle of Wight County	200
		Mathews County	< 100
		Newport News city	2,000
		Norfolk city	3,500
		Northampton County	500
		Poquoson city	300

Temporary roofing is based on 5% in CAT 1 and 8% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Roofing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Virginia		Portsmouth city	1,900
(continued)		Suffolk city	1,400
		Virginia Beach city	10,200
		York County	800
Virginia	28,800		

Temporary roofing is based on 5% in CAT 1 and 8% in CAT 2.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Roofing Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

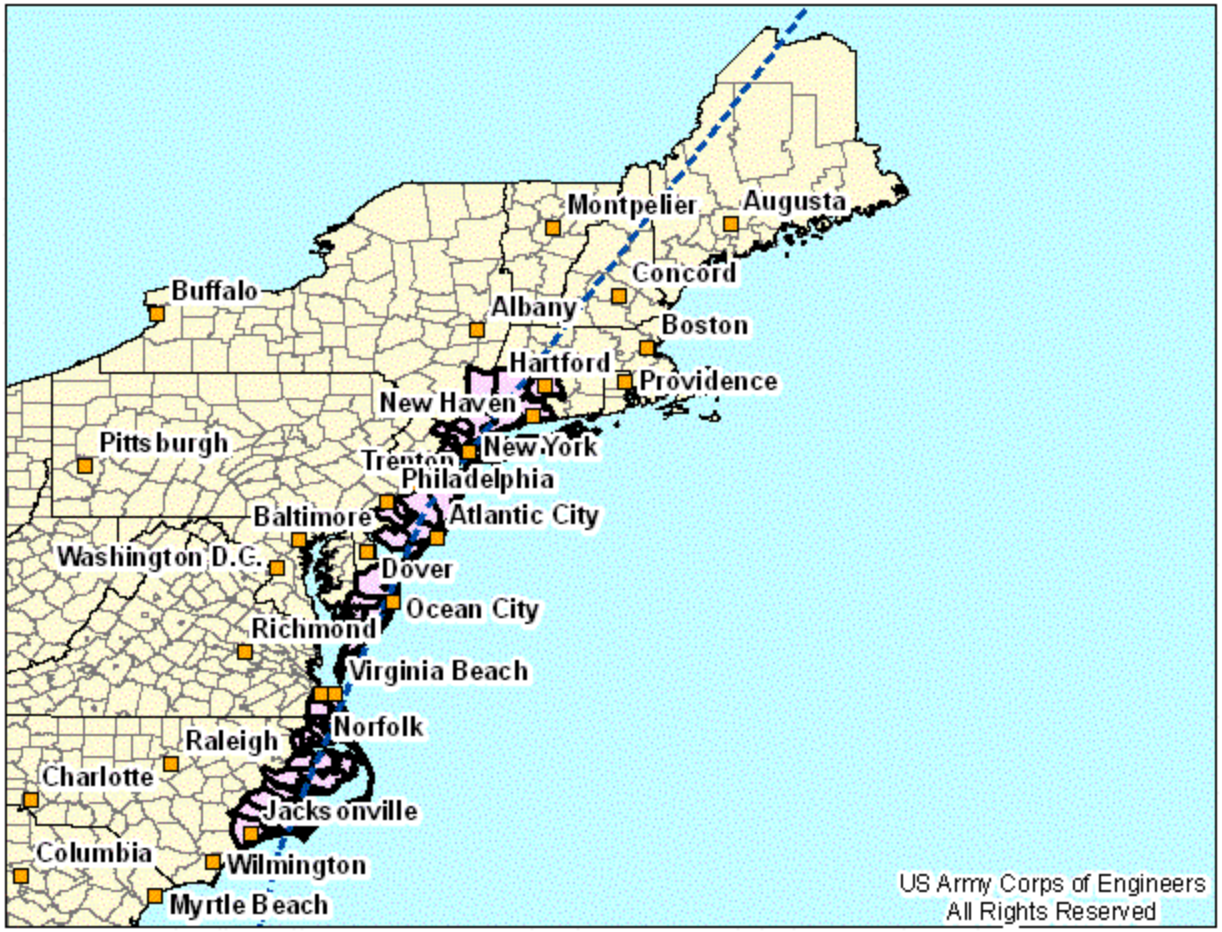
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Temporary Housing Model Results

New York - 5,500
New Jersey - 1,800
Connecticut - 300
Virginia - 200

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast. Temporary housing is based on 0.5% in CAT 2. The number indicated represents a possible need but not necessarily the scope of mission for USACE.

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Housing Model	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	Page 15 of 32

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Connecticut		Fairfield County	300
		Hartford County	< 100
		Litchfield County	< 100
		New Haven County	< 100
Connecticut	300		
Delaware		Sussex County	< 100
Delaware			
Maryland		Somerset County	< 100
		Wicomico County	< 100
		Worcester County	< 100
Maryland			
New Jersey		Atlantic County	< 100
		Bergen County	300
		Burlington County	< 100
		Camden County	< 100
		Cape May County	< 100
		Cumberland County	< 100
		Essex County	300
		Gloucester County	< 100
		Hudson County	300
		Mercer County	< 100
		Middlesex County	200
		Monmouth County	200
		Ocean County	300
		Passaic County	< 100
		Union County	200
New Jersey	1,800		

State	House Units per State	County	House Units per County
New York		Bronx County	700
		Dutchess County	< 100
		Kings County	1,300
		Nassau County	400
		New York County	1,400
		Putnam County	< 100
		Queens County	1,000
		Richmond County	200
		Rockland County	< 100
		Suffolk County	200
		Westchester County	300
New York	5,500		
North Carolina		Beaufort County	< 100
		Camden County	< 100
		Carteret County	< 100
		Chowan County	< 100
		Craven County	< 100
		Currituck County	< 100
		Dare County	< 100
		Hyde County	< 100
		Jones County	< 100
		Onslow County	< 100
		Pamlico County	< 100
		Pasquotank County	< 100
		Perquimans County	< 100
		Tyrrell County	< 100
		Washington County	< 100
North Carolina			

Temporary housing is based on 0.5% in CAT 2.
The number indicated represents a possible need but not necessarily the scope of mission for USACE.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Housing Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Temporary Housing Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	House Units per State	County	House Units per County
Virginia		Accomack County	< 100
		Chesapeake city	< 100
		Norfolk city	< 100
		Northampton County	< 100
		Virginia Beach city	200
Virginia	200		

Temporary housing is based on 0.5% in CAT 2.
The number indicated represents a possible need but not necessarily the scope of mission for USACE.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Housing Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

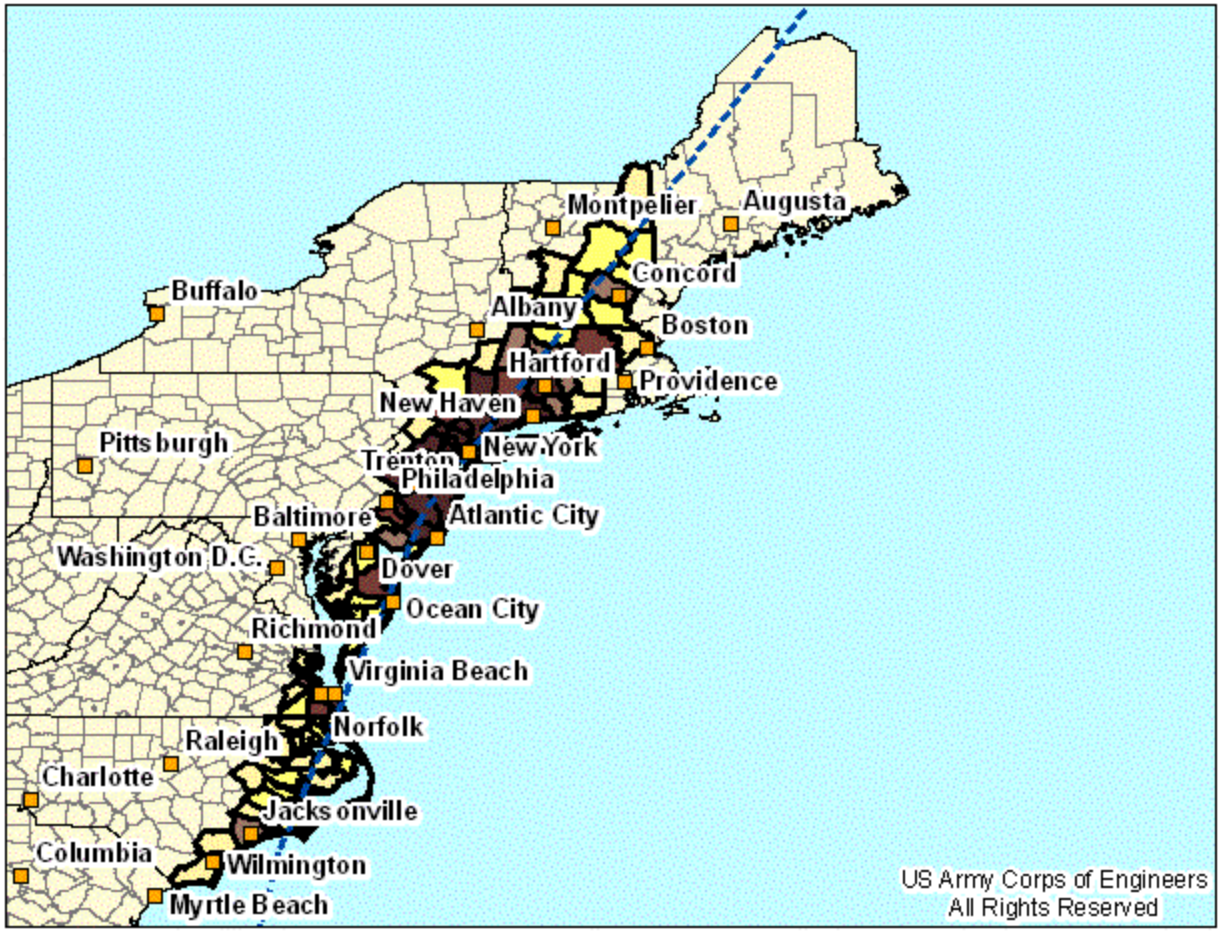
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Population Model Results

New York - 13,107,000
New Jersey - 7,987,000
Connecticut - 3,136,000
Virginia - 1,556,000
Massachusetts - 1,028,000
North Carolina - 737,000
New Hampshire - 450,000
Pennsylvania - 350,000
Delaware - 234,000
Maryland - 172,000
Vermont - 45,000

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Connecticut		Fairfield County	910,000
		Hartford County	882,000
		Litchfield County	188,000
		Middlesex County	140,000
		New Haven County	851,000
		New London County	11,000
		Tolland County	148,000
		Windham County	6,000
Connecticut	3,136,000		
Delaware		Kent County	41,000
		Sussex County	193,000
Delaware	234,000		
Maryland		Caroline County	< 1,000
		Dorchester County	2,000
		Somerset County	26,000
		Wicomico County	95,000
		Worcester County	49,000
Maryland	172,000		
Massachusetts		Berkshire County	105,000
		Franklin County	72,000
		Hampden County	470,000
		Hampshire County	156,000
		Middlesex County	9,000
		Worcester County	216,000
Massachusetts	1,028,000		
New Hampshire		Belknap County	53,000
		Carroll County	26,000
New Hampshire (continued)		Cheshire County	77,000
		Coos County	4,000
		Grafton County	39,000
		Hillsborough County	94,000
		Merrimack County	117,000
		Sullivan County	40,000
New Hampshire	450,000		
New Jersey		Atlantic County	274,000
		Bergen County	900,000
		Burlington County	445,000
		Camden County	403,000
		Cape May County	97,000
		Cumberland County	157,000
		Essex County	778,000
		Gloucester County	180,000
		Hudson County	616,000
		Hunterdon County	5,000
		Mercer County	367,000
		Middlesex County	796,000
		Monmouth County	647,000
		Morris County	377,000
		Ocean County	578,000
		Passaic County	494,000
		Salem County	14,000
		Somerset County	325,000
		Sussex County	4,000
		Union County	530,000
New Jersey	7,987,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
New York		Bronx County	1,392,000
		Columbia County	9,000
		Dutchess County	278,000
		Kings County	2,547,000
		Nassau County	1,367,000
		New York County	1,615,000
		Orange County	243,000
		Putnam County	100,000
		Queens County	2,355,000
		Richmond County	494,000
		Rockland County	303,000
		Suffolk County	1,413,000
		Ulster County	29,000
		Westchester County	962,000
New York	13,107,000		
North Carolina		Beaufort County	47,000
		Bertie County	13,000
		Brunswick County	4,000
		Camden County	10,000
		Carteret County	66,000
		Chowan County	16,000
		Craven County	99,000
		Currituck County	25,000
		Dare County	35,000
		Gates County	10,000
		Hertford County	4,000
		Hyde County	6,000
		Jones County	8,000
		Martin County	13,000
		New Hanover County	108,000
North Carolina (continued)		Onslow County	161,000
		Pamlico County	13,000
		Pasquotank County	42,000
		Pender County	14,000
		Perquimans County	13,000
		Pitt County	12,000
		Tyrrell County	5,000
		Washington County	13,000
North Carolina	737,000		
Pennsylvania		Bucks County	275,000
		Philadelphia County	75,000
Pennsylvania	350,000		
Vermont		Bennington County	< 1,000
		Windham County	38,000
		Windsor County	7,000
Vermont	45,000		
Virginia		Accomack County	39,000
		Chesapeake city	226,000
		Gloucester County	2,000
		Hampton city	143,000
		Isle of Wight County	11,000
		Mathews County	5,000
		Newport News city	156,000
		Norfolk city	256,000
		Northampton County	14,000
		Poquoson city	12,000

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Hurricane Irene Population Model

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Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Population Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Population per State	County	Population per County
Virginia		Portsmouth city	131,000
(continued)		Suffolk city	84,000
		Virginia Beach city	436,000
		York County	41,000
Virginia	1,556,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

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Source: US Army Corps of Engineers, All Rights Reserved

Hurricane Irene Population Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

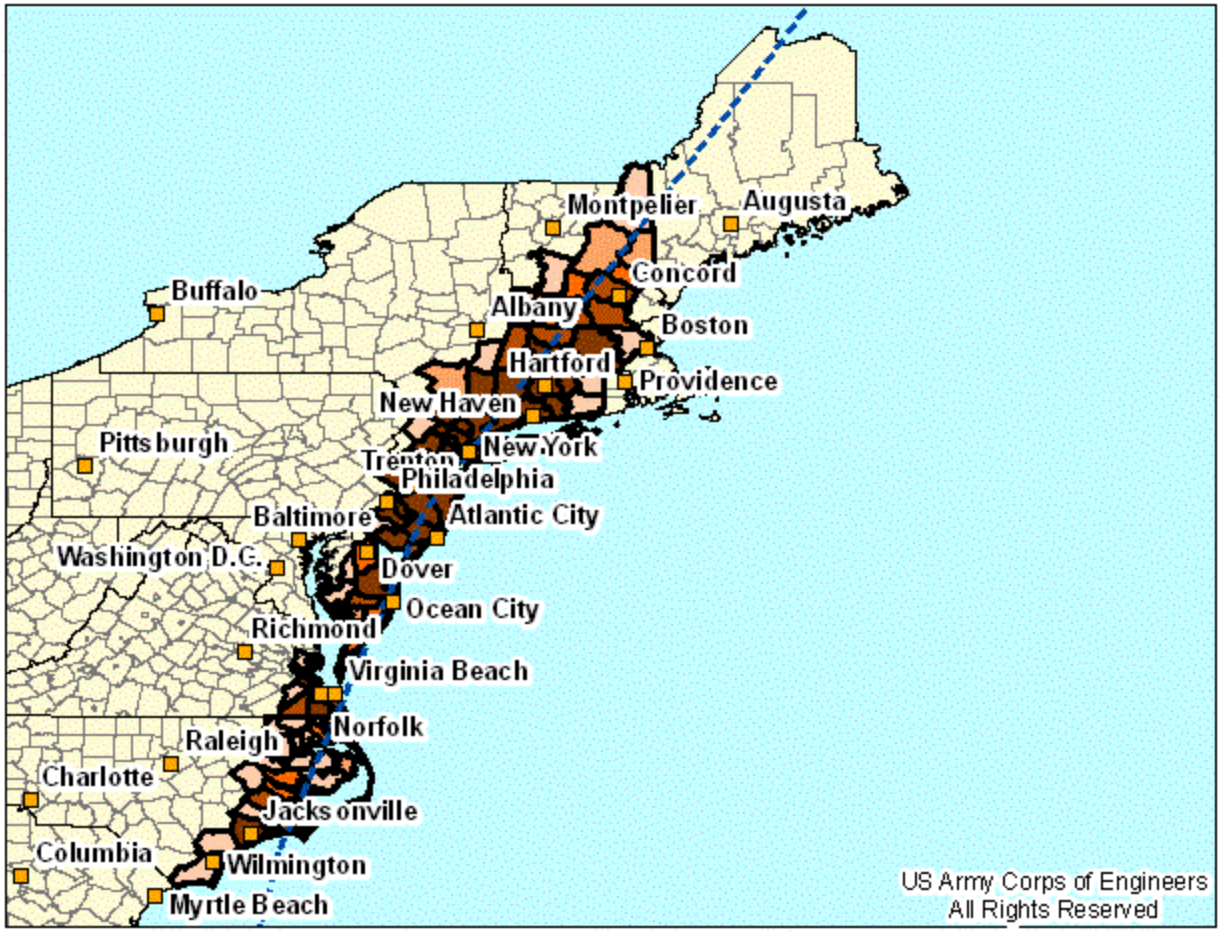
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Post Landfall Households Model Results

New York - 4,769,000
New Jersey - 2,917,000
Connecticut - 1,201,000
Virginia - 578,000
Massachusetts - 398,000
North Carolina - 284,000
New Hampshire - 176,000
Pennsylvania - 129,000
Delaware - 94,000
Maryland - 67,000
Vermont - 24,000

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Forecast Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2010 values).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

Hurricane Irene Households Model	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	Page 22 of 32

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Connecticut		Fairfield County	335,000
		Hartford County	345,000
		Litchfield County	74,000
		Middlesex County	56,000
		New Haven County	330,000
		New London County	4,000
		Tolland County	54,000
		Windham County	3,000
Connecticut	1,201,000		
Delaware		Kent County	16,000
		Sussex County	78,000
Delaware	94,000		
Maryland		Caroline County	< 1,000
		Dorchester County	< 1,000
		Somerset County	9,000
		Wicomico County	37,000
		Worcester County	21,000
Maryland	67,000		
Massachusetts		Berkshire County	44,000
		Franklin County	30,000
		Hampden County	181,000
		Hampshire County	58,000
		Middlesex County	3,000
		Worcester County	82,000
Massachusetts	398,000		
New Hampshire		Belknap County	22,000
		Carroll County	11,000

State	Households per State	County	Households per County
New Hampshire		Cheshire County	30,000
(continued)		Coos County	2,000
		Grafton County	15,000
		Hillsborough County	34,000
		Merrimack County	45,000
		Sullivan County	17,000
New Hampshire	176,000		
New Jersey		Atlantic County	103,000
		Bergen County	337,000
		Burlington County	162,000
		Camden County	152,000
		Cape May County	40,000
		Cumberland County	53,000
		Essex County	278,000
		Gloucester County	62,000
		Hudson County	233,000
		Hunterdon County	2,000
		Mercer County	132,000
		Middlesex County	282,000
		Monmouth County	236,000
		Morris County	137,000
		Ocean County	227,000
		Passaic County	166,000
		Salem County	5,000
		Somerset County	119,000
		Sussex County	2,000
		Union County	189,000
New Jersey	2,917,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Irene Households Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
New York		Bronx County	485,000
		Columbia County	4,000
		Dutchess County	99,000
		Kings County	912,000
		Nassau County	459,000
		New York County	776,000
		Orange County	80,000
		Putnam County	34,000
		Queens County	827,000
		Richmond County	174,000
		Rockland County	98,000
		Suffolk County	459,000
		Ulster County	11,000
		Westchester County	351,000
New York	4,769,000		
North Carolina		Beaufort County	19,000
		Bertie County	5,000
		Brunswick County	2,000
		Camden County	4,000
		Carteret County	28,000
		Chowan County	6,000
		Craven County	38,000
		Currituck County	10,000
		Dare County	15,000
		Gates County	4,000
		Hertford County	2,000
		Hyde County	2,000
		Jones County	3,000
		Martin County	5,000
		New Hanover County	45,000

State	Households per State	County	Households per County
North Carolina		Onslow County	51,000
(continued)		Pamlico County	5,000
		Pasquotank County	16,000
		Pender County	6,000
		Perquimans County	6,000
		Pitt County	5,000
		Tyrrell County	2,000
		Washington County	5,000
North Carolina	284,000		
Pennsylvania		Bucks County	102,000
		Philadelphia County	27,000
Pennsylvania	129,000		
Vermont		Bennington County	< 1,000
		Windham County	21,000
		Windsor County	3,000
Vermont	24,000		
Virginia		Accomack County	16,000
		Chesapeake city	80,000
		Gloucester County	< 1,000
		Hampton city	53,000
		Isle of Wight County	4,000
		Mathews County	2,000
		Newport News city	65,000
		Norfolk city	94,000
		Northampton County	6,000
		Poquoson city	5,000

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
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Hurricane Irene Households Model

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Siemsen, LRL 1800 EDT 08/25/2011

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Households Model

Landfall Expected In About **45** Hours

For Planning Purposes Only!

State	Households per State	County	Households per County
Virginia		Portsmouth city	48,000
(continued)		Suffolk city	31,000
		Virginia Beach city	159,000
		York County	15,000
Virginia	578,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2010 values.

Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

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Hurricane Irene Households Model

Generated By:
Siemsen, LRL 1800 EDT 08/25/2011

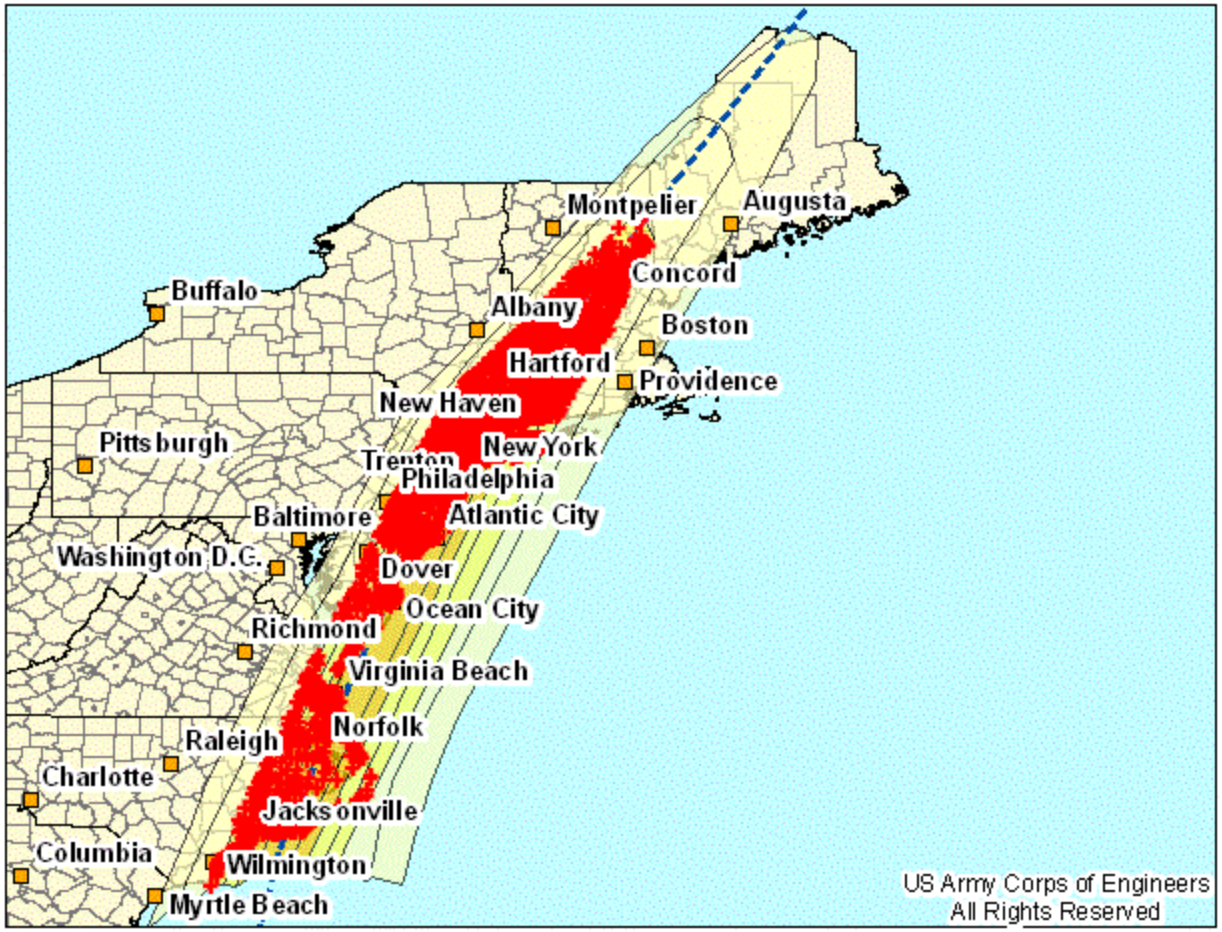
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Irene Fire Stations

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Fire Stations Inside Hurricane Force Winds

New Jersey - 1,102
New York - 917
Connecticut - 482
North Carolina - 249
Massachusetts - 202
New Hampshire - 162
Virginia - 129
Maryland - 41
Delaware - 41
Pennsylvania - 34
Vermont - 24

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

+ Fire Stations

Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

The number of fire stations included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

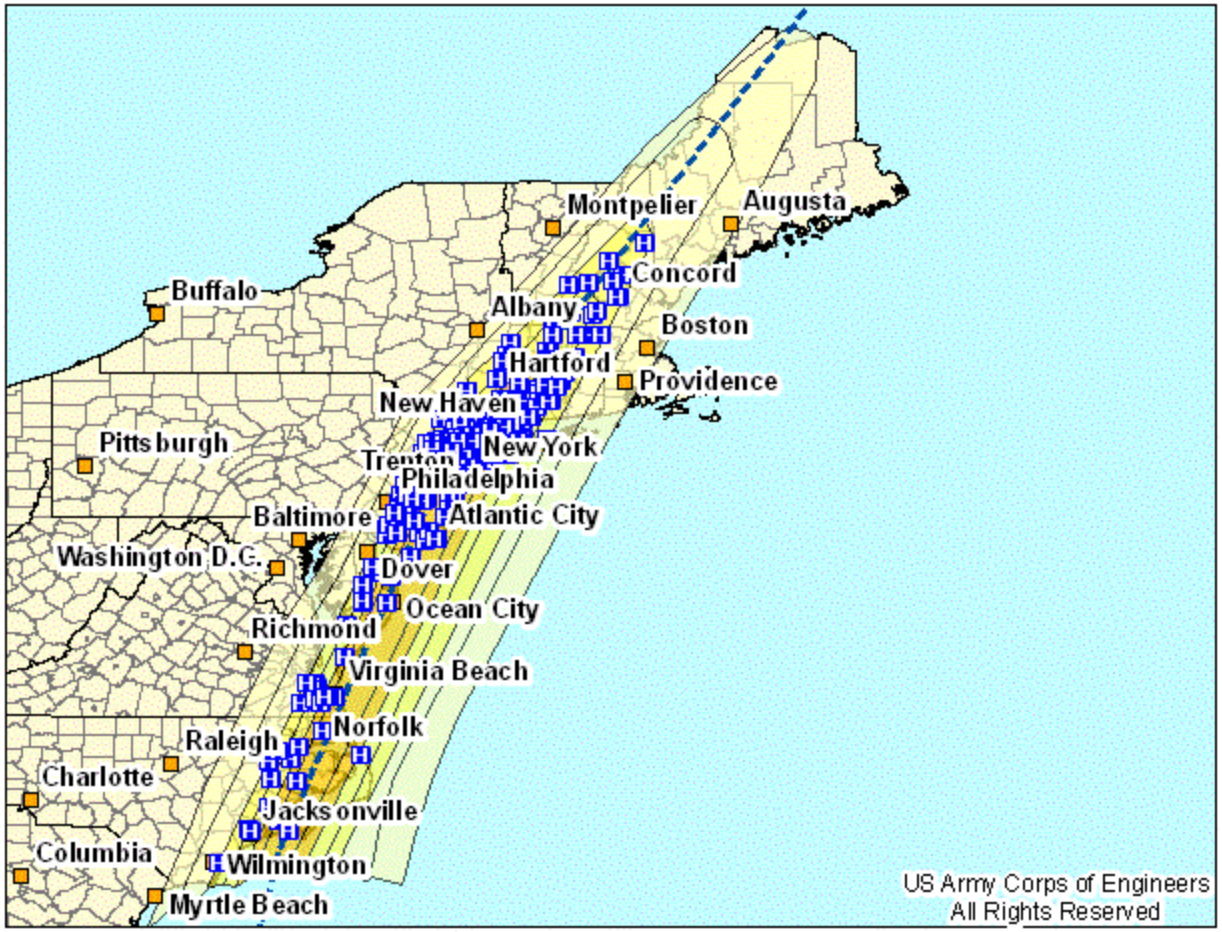
Hurricane Irene Fire Stations	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Hospitals

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Hospitals Inside Hurricane Force Winds

New Jersey - 133
New York - 114
Connecticut - 40
Massachusetts - 24
Virginia - 20
North Carolina - 15
New Hampshire - 12
Pennsylvania - 5
Maryland - 5
Vermont - 4
Delaware - 4

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

H Hospitals

Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

The number of hospitals included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

Details about this model may be obtained at http://www.englink.usace.army.mil or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil

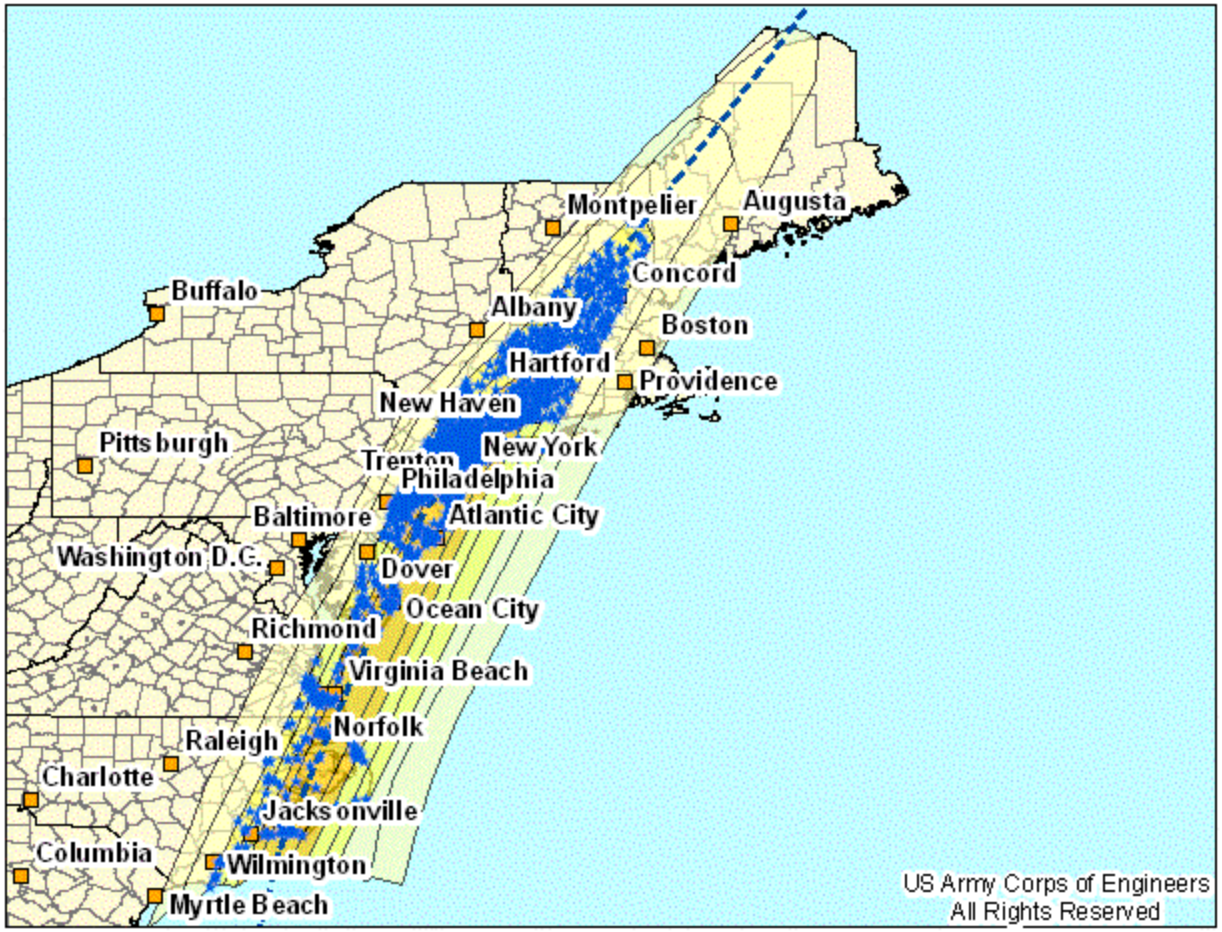
Hurricane Irene Hospitals	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	Page 27 of 32

US Army Corps of Engineers

Hurricane Irene Law Enforcement

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Law Enforcement Inside Hurricane Force Winds

New Jersey - 546
New York - 442
Massachusetts - 171
Connecticut - 166
New Hampshire - 129
North Carolina - 107
Virginia - 68
Maryland - 31
Delaware - 24
Pennsylvania - 15
Vermont - 9

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

★ Law Enforcement
Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

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Hurricane Irene Law Enforcement	
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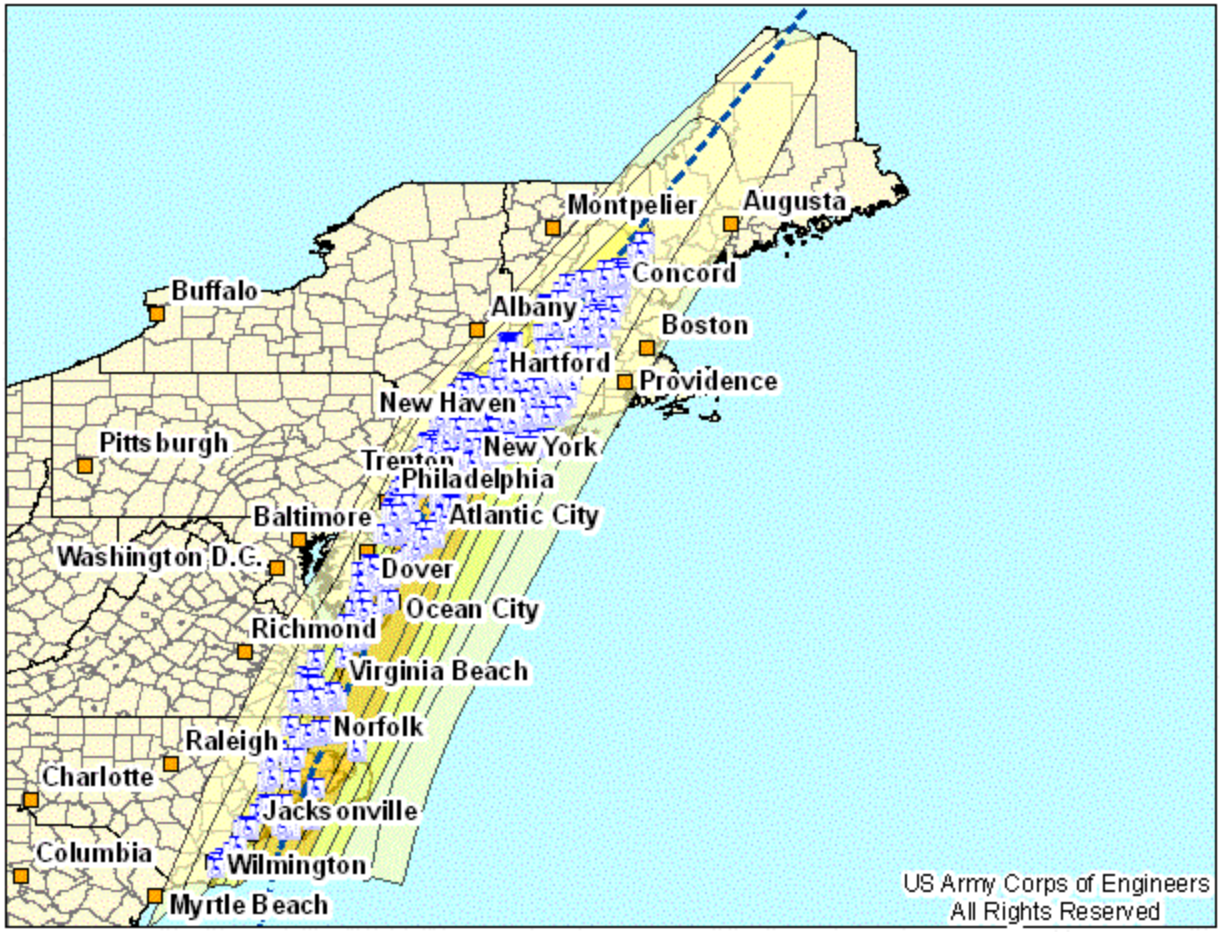
Sources: HURREVAC LRL-DEBRIS	Page 28 of 32

US Army Corps of Engineers

Hurricane Irene Nursing Homes

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Nursing Homes Inside Hurricane Force Winds

New Jersey - 505
New York - 495
Connecticut - 361
Virginia - 124
New Hampshire - 117
Massachusetts - 112
North Carolina - 73
Pennsylvania - 22
Delaware - 21
Maryland - 19
Vermont - 10

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Nursing Homes
Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

The number of nursing homes included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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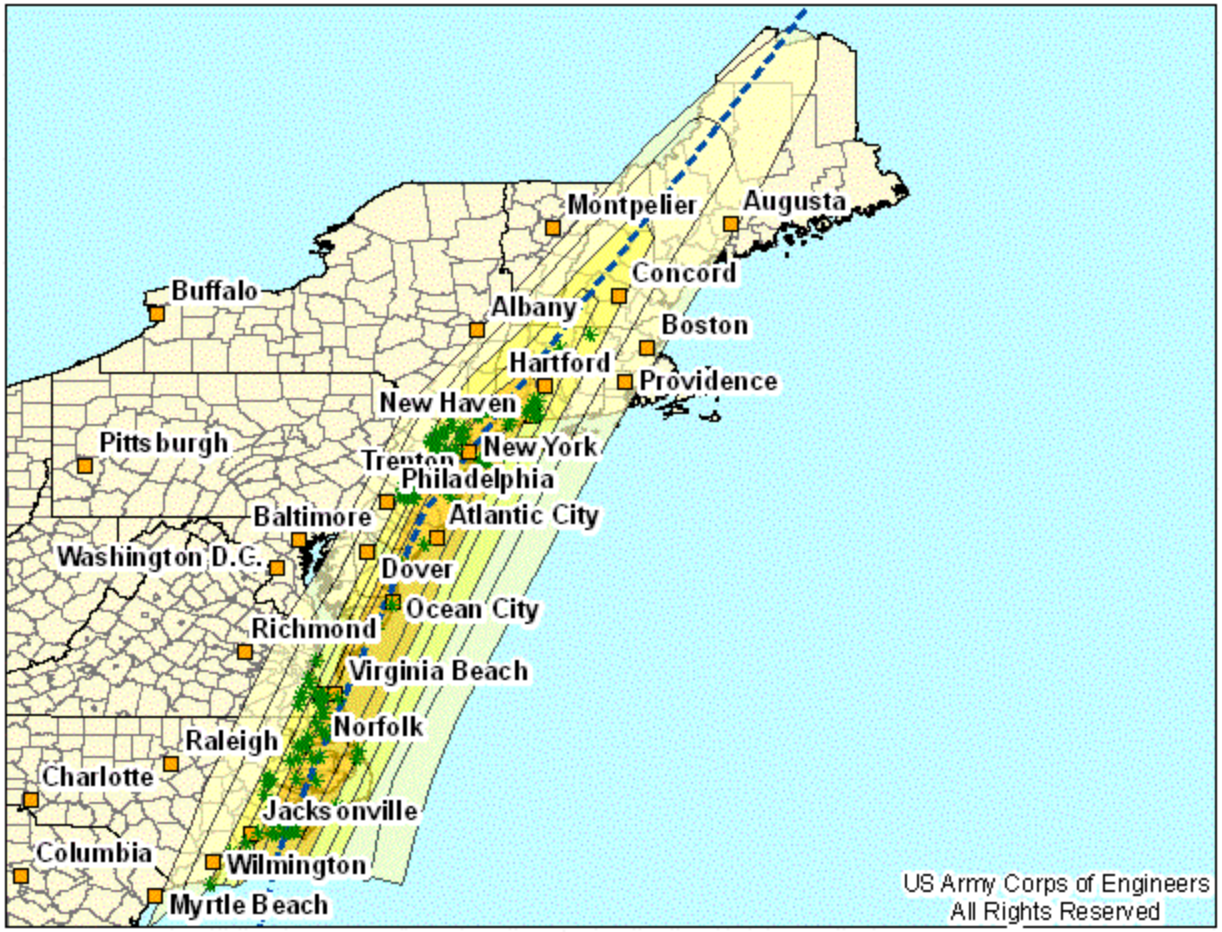
Hurricane Irene Nursing Homes	
Generated By: Siemsen, LRL 1800 EDT 08/25/2011	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Irene Potable Water

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Potable Water Inside Hurricane Force Winds

North Carolina - 40
New Jersey - 30
Virginia - 18
New York - 17
Connecticut - 10
Massachusetts - 3
Pennsylvania - 2
Maryland - 1

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Potable Water
Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

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Hurricane Irene Potable Water	
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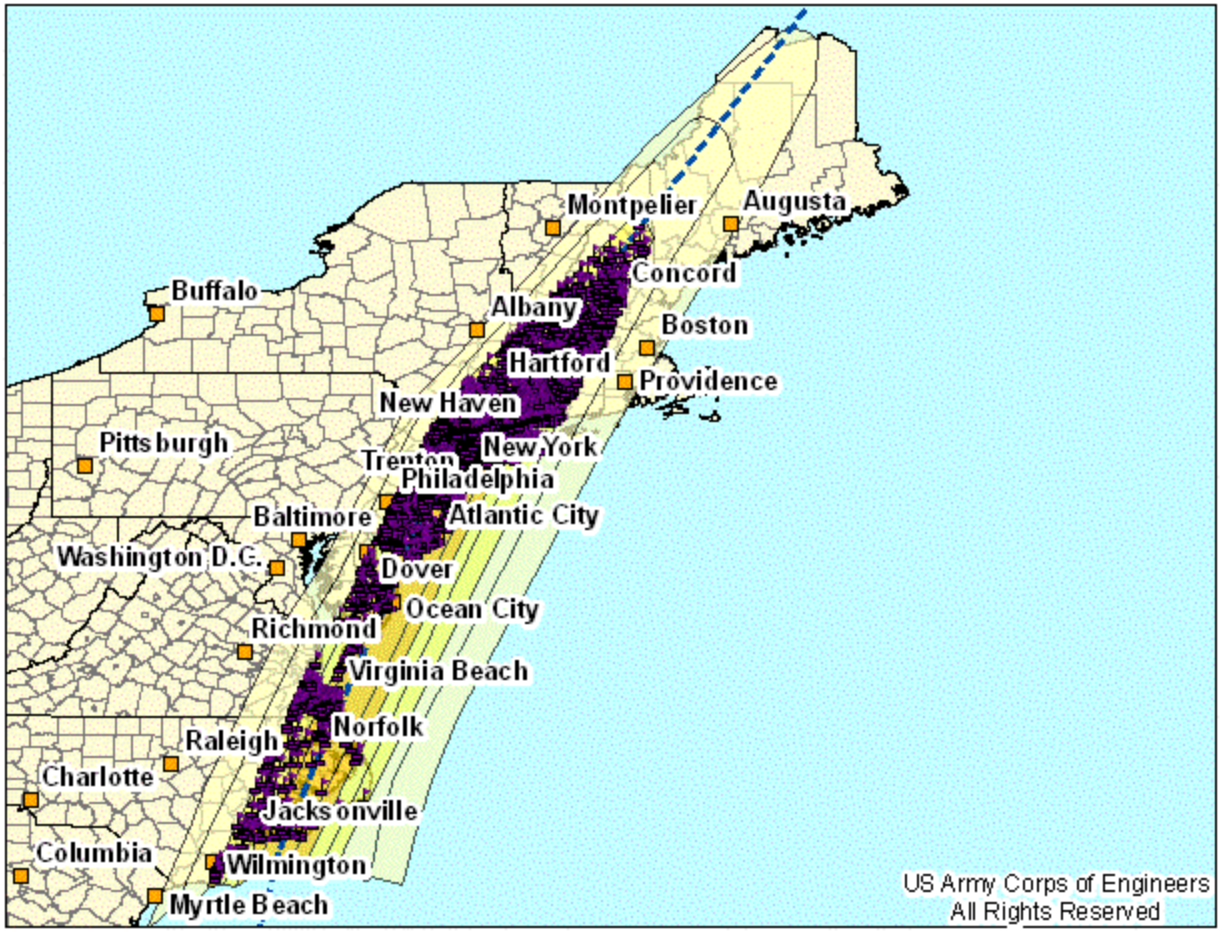
US Army Corps of Engineers

Hurricane Irene Schools

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Schools Inside Hurricane Force Winds

New York - 2,679
New Jersey - 2,316
Connecticut - 979
Virginia - 384
Massachusetts - 362
North Carolina - 220
New Hampshire - 206
Delaware - 65
Pennsylvania - 64
Maryland - 48
Vermont - 33

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Schools
Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

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Hurricane Irene Schools	
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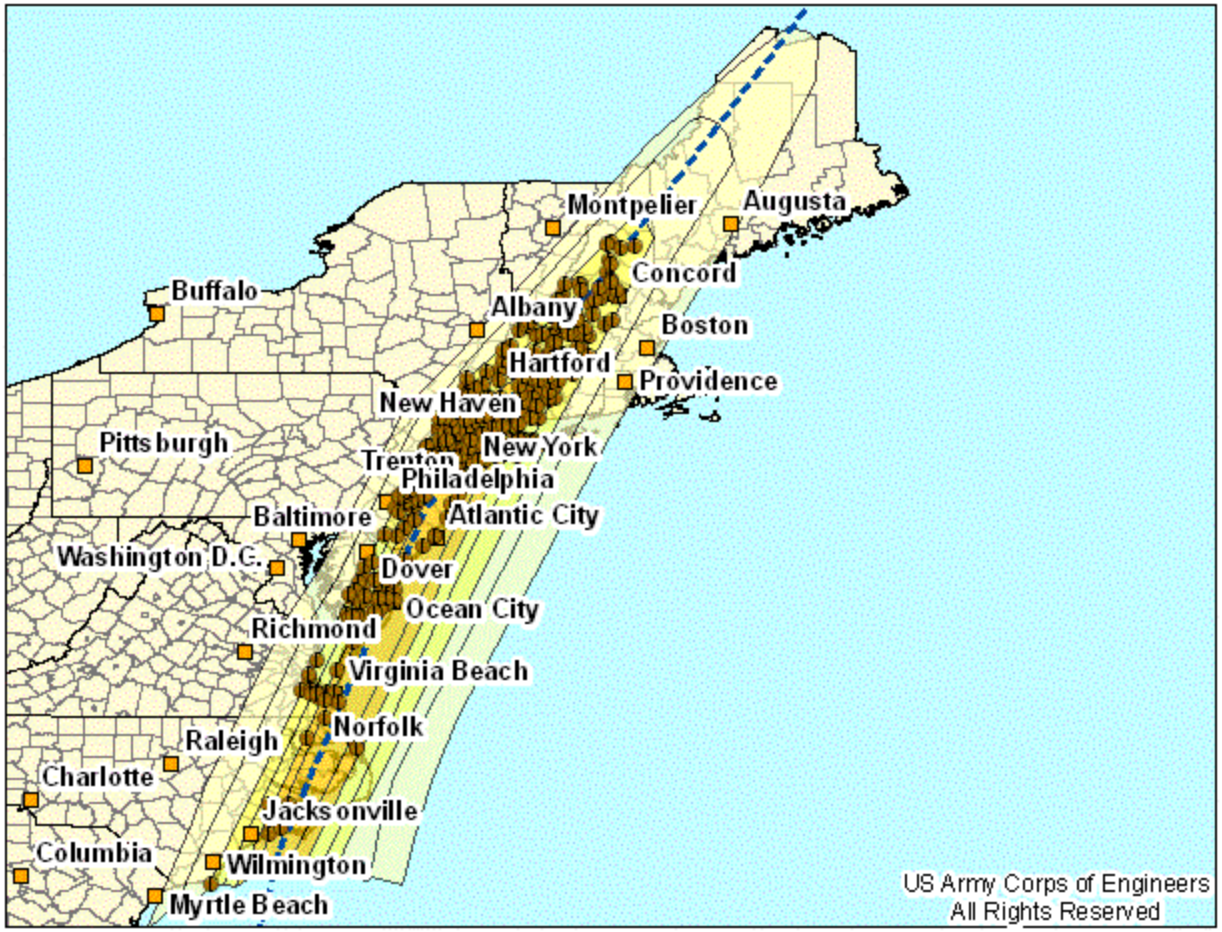
Sources: HURREVAC LRL-DEBRIS	

Hurricane Irene Sewage Treatment Plants

US Army Corps of Engineers

Landfall Expected In About **45** Hours

For Planning Purposes Only!



Most Probable Landfall Sewage Treatment Plants Inside Hurricane Force Winds

New Jersey - 145
New York - 127
Connecticut - 67
Massachusetts - 51
New Hampshire - 33
Maryland - 22
Virginia - 18
Delaware - 13
Pennsylvania - 11
North Carolina - 9
Vermont - 6

Model results per County on following page

This model is based on a Category 2 storm making landfall near Morehead City, NC.

Sewage Treatment Plants
Forecast Track

Information provided on this page displays a Category 2 storm making landfall near Morehead City, NC. These projections are based on information from the NHC (1700 EDT 08/25/2011) forecast.

The number of sewage treatment plants included in this output are those that would be included within estimated hurricane force winds (data source: HSIP Gold 2011).

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Sources: HURREVAC LRL-DEBRIS	